

5. The port security barrier system of claim 3 wherein said capture net is fabricated from nylon to absorb energy from a waterborne craft which engages said capture net, said waterborne craft when engaging said capture net traveling at speeds of up to 52 knots and having a weight of around 10,000 pounds.

6. The port security barrier system of claim 1 wherein said plurality of pontoons comprise three pontoons, a first and a second of said three pontoons being positioned at each end of said longitudinal strength member and a third of said three pontoons being positioned at the center of said longitudinal strength member, the first and the second of said three pontoons having an equal length, and the third of said three pontoons having a substantially greater length than the first and the second of said three pontoons.

7. The port security barrier system of claim 1 wherein said longitudinal strength member includes connector elements positioned at each end of said longitudinal strength member, said connector elements allowing a user of said port security barrier system to connect each of said port security barrier modules to adjacent port security barrier modules.

8. The port security barrier system of claim 7 wherein one of said port security barrier modules operates as a gate, the connector elements of the one of said port security barrier modules operating as said gate allowing said user to open and close the one of said port security barrier modules operating as said gate.

9. The port security barrier system of claim 1 wherein said net support structure comprises:

first, second and third net support members attached to said longitudinal strength member, said first, second and third net support members extending vertically upward from said longitudinal strength member, said first net support member being positioned at one end of said longitudinal strength member, said second net support member being positioned at other end of said longitudinal strength member and said third net support member being positioned at the center of said longitudinal strength member;

a first angled support brace, said first angled support brace having one end attached to the bottom end of said first net support member and the other end attached near the top end of said third net support member; and

a second angled support brace, said second angled support brace having one end attached to the bottom end of said second net support member and the other end attached near the top end of said third net support member.

10. The port security barrier system of claim 9 further comprising a warning light located near the top end of said third net support member and a light support bracket attached to said net support member, said warning light being mounted on said light support bracket.

11. The port security barrier system of claim 9 further comprising:

a third angled support brace having one end attached to the top end of said first net support member and the other end attached to a first of said plurality of pontoons;

a fourth angled support brace having end attached to the top end of said second net support member and the other end attached to a second of said plurality of pontoons; and

a fifth angled support brace having end attached to the top end of said third net support member and the other end attached to a third of said plurality of pontoons.

12. A port security barrier system for protecting a port facility from a waterborne craft laden with explosives, said port security barrier system comprising:

(a) a plurality of port security barrier modules connected to one another to form a floating security barrier for said port facility having a length from about two hundred feet to about one mile;

(b) a plurality of mooring buoys, each of said plurality of mooring buoys being disposed between an adjacent pair of said port security barrier modules and connected to each of the adjacent pair of said port security barrier modules, said mooring buoys maintaining said port security barrier modules in a fixed position relative to said port facility to insure that said port facility is protected from said waterborne craft;

(c) each of said port security barrier modules including:

(i) a longitudinal strength member;

(ii) a generally rectangular shaped capture net extending vertically upward from said longitudinal strength member, said capture net having a length approximately the same as the length of said longitudinal strength member, and a height which is sufficient to prevent said waterborne craft from penetrating said port facility, said capture net having a mesh structure, said mesh structure having a one foot square mesh size comprising horizontal boat stopping members consisting of a 1.125 inch diameter 12-Strand Braided nylon rope and vertical boat stopping members consisting of 0.75 inch diameter 12-Plait nylon, the horizontal boat stopping members of said capture net being interlaced with the vertical boat stopping members of said capture net to form the mesh structure of said capture net;

(iii) a net support structure extending vertically upward from said longitudinal strength member, said net support structure being attached to said longitudinal strength member, said net support structure having said capture net attached thereto;

(iv) a first pontoon, a second pontoon and a third pontoon orientated perpendicular to said longitudinal strength member and attached thereto, said first pontoon being positioned at each one end of said longitudinal strength member, said second pontoon being positioned at the opposite end of said longitudinal strength member and said third pontoon being positioned at the center of said longitudinal strength member, said first pontoon and said second pontoon having an equal length, and said third pontoon having a substantially greater length than said first pontoon and said second pontoon, said first pontoon, said second pontoon and said third pontoon for each of said port security barrier modules keeping said port security barrier system afloat in a seawater environment; and

(v) an anti-kayak guard positioned below and attached to said longitudinal strength member, said anti-kayak guard preventing small watercraft from slipping under said port security barrier system into said port facility.

13. The port security barrier system of claim 12 wherein each of said plurality of mooring buoys has one end of a mooring line connected thereto, said mooring line having at least two branches, each of the branches of said mooring line having an anchor connected thereto.

14. The port security barrier system of claim 12 wherein said capture net has a height of approximately eight feet and a width of approximately of fifty two feet.

15. The port security barrier system of claim 12 wherein said capture net is fabricated from nylon to absorb energy from a waterborne craft which engages said capture net, said

waterborne craft when engaging said capture net traveling at speeds of up to 52 knots and having a weight of around 10,000 pounds.

16. The port security barrier system of claim 12 wherein said longitudinal strength member includes connector elements positioned at each end of said longitudinal strength member, said connector elements allowing a user of said port security barrier system to connect each of said port security barrier modules to adjacent port security barrier modules. 5

17. The port security barrier system of claim 16 wherein one of said port security barrier modules operates as a gate, the connector elements of the one of said port security barrier modules operating as said gate allowing said user to open and close the one of said port security barrier modules 10 operating as said gate.

18. The port security barrier system of claim 12 wherein said net support structure comprises:

first, second and third net support members attached to 20 said longitudinal strength member, said first, second and third net support members extending vertically upward from said longitudinal strength member, said first net support member being positioned at one end of said longitudinal strength member, said second net support member being positioned at other end of said longitudinal strength member and said third net support member being positioned at the center of said longitudinal strength member;

25 a first angled support brace, said first angled support brace having one end attached to the bottom end of said first net support member and the other end attached near the top end of said third net support member;

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a second angled support brace, said second angled support brace having one end attached to the bottom end of said second net support member and the other end attached near the top end of said third net support member;

a third angled support brace having one end attached to the top end of said first net support member and the other end attached to said first pontoon;

a fourth angled support brace having end attached to the top end of said second net support member and the other end attached to said second pontoon; and

a fifth angled support brace having end attached to the top end of said third net support member and the other end attached to said third pontoon.

19. The port security barrier system of claim 18 further comprising a warning light located near the top end of said third net support member and a light support bracket attached to said net support member, said warning light being mounted on said light support bracket.

20. The port security barrier system of claim 12 wherein each of said port security barrier modules has a tow brace assembly for providing stability for said port security barrier module when said port security barrier module is being towed at sea, said port security barrier module having first and second towing braces, said first towing brace having one end attached to the center of said first pontoon and the opposite end attached to the rear of said third pontoon and said second towing brace having one end attached to the center of said second pontoon and the opposite end attached to the rear of said third pontoon.

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21. A port security barrier system for protecting a port facility from a waterborne craft laden with explosives, said port security barrier system comprising:

(a) a plurality of port security barrier modules connected to one another to form a floating security barrier for said port facility having a length from about two hundred feet to about one mile;

(b) a plurality of mooring buoys, each of said plurality of mooring buoys being disposed between an adjacent pair of said port security barrier modules and connected to each of the adjacent pair of said port security barrier modules, said mooring buoys maintaining said port security barrier modules in a fixed position relative to said port facility to insure that said port facility is protected from said waterborne craft;

(c) each of said port security barrier modules including:

(i) a longitudinal strength member;

(ii) a generally rectangular shaped capture net extending vertically upward from said longitudinal strength member, said capture net having a length approximately the same as the length of said longitudinal strength member, and a height which is sufficient to prevent said waterborne craft from penetrating said port facility;

(iii) a net support structure extending vertically upward from said longitudinal strength member, said net support structure

being attached to said longitudinal strength member, said net support structure having said capture net attached thereto;
and

(iv) a plurality of pontoons attached to said longitudinal strength member and orientated perpendicular to said longitudinal strength member, said pontoons for each of said port security barrier modules keeping said port security barrier system afloat in a seawater environment.

22. The port security barrier system of claim 21 wherein each of said plurality of mooring buoys has one end of a mooring line connected thereto, said mooring line having at least two branches, each of the branches of said mooring line having an anchor connected thereto.

23. The port security barrier system of claim 21 wherein said capture net has a mesh structure, said mesh structure having a one foot square mesh size comprising horizontal boat stopping members consisting of a 1.125 inch diameter 12-Strand Braided nylon rope and vertical boat stopping members consisting of 0.75 inch diameter 12-Plait nylon, the horizontal boat stopping members of said capture net being interlaced with the vertical boat stopping members of said capture net to form the mesh structure of said capture net.

24. The port security barrier system of claim 23 wherein said capture net has a height of approximately eight feet and a width of approximately fifty two feet.

25. The port security barrier system of claim 23 wherein said capture net is fabricated from nylon to absorb energy from a waterborne craft which engages said capture net, said waterborne craft when engaging said capture net traveling at speeds of up to 52 knots and having a weight of around 10,000 pounds.

26. The port security barrier system of claim 21 wherein said plurality of pontoons comprise three pontoons, a first and a second of said three pontoons being positioned at each end of said longitudinal strength member and a third of said three pontoons being position at the center of said longitudinal strength member, the first and the second of said three pontoons having an equal length, and the third of said three pontoons having a substantially greater length than the first and the second of said three pontoons.

27. The port security barrier system of claim 21 wherein said longitudinal strength member includes connector elements positioned at each end of said longitudinal strength member, said connector elements allowing a user of said port security barrier system to

connect each of said port security barrier modules to adjacent port security barrier modules.

28. The port security barrier system of claim 27 wherein one of said port security barrier modules operates as a gate, the connector elements of the one of said port security barrier modules operating as said gate allowing said user to open and close the one of said port security barrier modules operating as said gate.

29. The port security barrier system of claim 21 wherein said net support structure comprises:

first, second and third net support members attached to said longitudinal strength member, said first, second and third net support members extending vertically upward from said longitudinal strength member, said first net support member being positioned at one end of said longitudinal strength member, said second net support member being positioned at other end of said longitudinal strength member and said third net support member being positioned at the center of said longitudinal strength member;

a first angled support brace, said first angled support brace having one end attached to the bottom end of said first net support member and the other end attached near the top end of said third net support member; and

a second angled support brace, said second angled support brace having one end attached to the bottom end of said second net support member and the other end attached near the top end of said third net support member.

30. The port security barrier system of claim 29 further comprising a warning light located near the top end of said third net support member and a light support bracket attached to said net support member, said light support bracket being mounted on said light support bracket.

31. The port security barrier system of claim 29 further comprising:

a third angled support brace having one end attached to the top end of said first net support member and the other end attached to a first of said plurality of pontoons;

a fourth angled support brace having end attached to the top end of said second net support member and the other end attached to a second of said plurality of pontoons; and

a fifth angled support brace having end attached to the top end of said third net support member and the other end attached to a third of said plurality of pontoons.